

# THE UNITED STATES OF AMERICA

To all 10 vilon tiese exesents sual cone: Holden's Ionndation Seeds I. I. C.

THECE HAS BEEN PRESENTED TO THE

# Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT. THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE THEE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLEMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE UGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR OR TING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT ED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'LH341'

In Testimony Therest, I have hereunto set my hand and caused the seal of the Hunt Unrichn Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of April, in the year two thousand and eight.

DC-3-

Commissioner Plant Variety Protection Office Agricultural Marketing Service Colward J. Schafe

etary of Agriculture

and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that faise representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER

NAME (Please print or type)

Timothy R. Kain

DATE

Patent Scientist

DATE

Patent Scientist

Patent Scientist

#### INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

#### Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- the details of subsequent stages of selection and multiplication;
- evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
  - (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103),
- 22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date,
- 21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Sold in U.S. - December 2004

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filling a change of address. The fee for filling a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed.htm

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, perental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000. Replaces former versions of ST-470, which are obsolete

### **EXHIBIT A**

### Origin and Breeding History LH341

LH341 was developed from the cross of LH290 x LH283 by selfing and using the conventional ear-to-row system of plant breeding. Yield, stalk quality, root quality, disease tolerance, late plant greenness, late plant intactness, ear retention, pollen shedding ability, silking ability and corn borer tolerance were the criteria used to determine the rows from which ears were selected during the development of LH341.

LH290 and LH283 the progenitors of LH341, are proprietary field corn inbred lines of Holden's Foundation Seeds, L.L.C..

Summer 1997	The inbred line LH290 (a proprietary Holden's inbred) was crossed to the inbred line LH283 (proprietary Holden's inbred) in Iowa Field/Row 76437.
Summer 1998	The cross of LH290 $\times$ LH283 was crossed to the inbred line LH176 (proprietary Holden's inbred) and the S0 seed was grown and self-pollinated in nursery range/row 488 in lowa.
Summer 1999	The S1 seed was grown and self-pollinated in nursery row 2831 in Minnesota.
Summer 2000	S2 ears were grown ear-to-row and self-pollinated in nursery range/row 11922 in Minnesota.
Winter 2000-2001	S3 ears were grown ear-to-row and self-pollinated in nursery row 8014 at Mexico.
Summer 2001	S4 ears were grown ear-to-row and self-pollinated in Minnesota in nursery row 13251.
Winter 2001-2002	S5 ears were grown ear-to-row and self-pollinated in nursery row 9408 at Mexico.
Summer 2002	S6 ears were grown ear-to-row and self-pollinated in nursery row 3525 at Minnesota.
Summer 2003	S7 ears were grown ear-to-row and self-pollinated in nursery row 4482 at Minnesota.
Summer 2004	S8 ears were grown ear-to-row and self-pollinated in Minnesota nursery row 1-10.
Winter 2004-2005	Final selection made in Hawaii field #05PA2B10 and line coded LH341.
	Statement of Stability and Uniformity

## Statement of Stability and Uniformity

LH341 has shown uniformity and stability for all traits described in Exhibit C. It has been self-pollinated and ear-rowed for five generations, with careful attention to uniformity of plant type to ensure homozygosity and phenotypic stability.

### Statement of Variants

The line is stable, uniform and no variant traits have been observed or are anticipated in LH341.

# **EXHIBIT B** (revised)

### **Statement of Distinctness**

Holden's Foundation Seeds L.L.C. believes that Corn Variety LH341 is most similar to Corn Variety LH290, an inbred developed by Holden's Foundation Seeds L.L.C.

Corn Variety LH341 differ from Corn Variety LH290 at the following traits:

Trait	LH341	LH290
Leaf Sheath Pubescence*	None	Heavy
	(1)	(8)

<sup>\* -</sup> scale from 1= none to 9= like peach fuzz

#### 2005

Variety	Leaf Angle (degrees)	Tassel Branch Angle (degrees)
LH341	19.5 (Std Dev = 4.4, N= 10)	5.0 (Std Dev = 0.0, N= 10)
LH290	40.9 (Std Dev = 3.8, N= 10)	33.5 (Std Dev = 7.7, N= 10)
P_Val	0.000	0.000
Signif.	**	**

### 2006

Variety	Leaf Angle (degrees)	Tassel Branch Angle
		(degrees)
LH341	19.5	11.5
	(Std Dev = 9.0, N=10)	(Std Dev = 2.4, N= 10)
LH290	42.9	34.0
	Std Dev = 6.7, N=10)	(Std Dev = 9.0, N= 10)
P_Val	0.000	0.000
Signif.	**	**

Significance levels are indicated as: + = 10%, \* = 5%, \*\* = 1%

Corn variety LH341 has no leaf sheath pubescence, narrower leaf angle and a narrower tassel branch angle while comparative corn variety LH290 has heavy leaf sheath pubescence and wider leaf and tassel branch angle.

# EXHIBIT B (cont'd)

### **Description of Experimental Design**

The corn varieties LH341, LH290 and CM105 were grown at the Waterman, IL observation nursery in years 2005-2006. The varieties were planted in 2 row plots with 15 plants per row in each of the three years. Trait data were collected on 10 random representative plants for most traits from each 2 row plot. Data on qualitative traits are usually collected on 10 plants from each 2 row plot. For Exhibit C all data were pooled and reported as means across the years for subject variety and the standard variety with standard deviation. The varieties are randomly planted in a 4.5 acre observation nursery which is located within a larger 18 acre field. Besides the observation nursery, this field consists of a research seed increase nursery and an IP seed inventory nursery. The location of each of these individual nurseries is rotated each year to a different location within the 18 acre field. Therefore subject inbreds are not planted adjacent to comparative or standard varieties and may be located in different areas of the larger field each year, therefore being influenced by spacial differences within the field. Growing conditions within the field are not uniform as there are some slight topographical variations such as lower areas which may accumulate and retain water or higher areas which are usually drier. The field is tiled and therefore a variety maybe planted close to a tile line while a comparative variety maybe planted further away and in a low spot within the field. Temporal varieties can exist as weather conditions from year to year can vary as well as planting dates can vary from year to year based on weather conditions. Weather conditions each year can vary the maturity rate of the varieties due to either favorable or unfavorable growing conditions.

Trait variability is not observed for each variety within its own test plot-plants are usually uniform and data are collected on the "most" representative plants- variability occurs due to spacial location of the test plot for that variety from year to year and to the temporal variation of weather conditions from year to year during the 2-3 years data are collected.

### Waterman Research Station Weather Data 2005-2006

Date	Average	Ave. Monthly	Ave. Monthly	Ave. Monthly	Ave. Monthly
	Precip.	Temp – Max.	Temp-Min	Rel. Humid	Rel. Humid -
	(mm)	(F°)	(˰)	Max (%)	Min (%)
June 2005	0.9	84.7	61.3	89.8	41.7
July 2005	2.0	84.9	61.7	93.4	44.7
August 2005	2.5	82.6	60.4	94.9	50.0
Sept 2005	1.8	79.9	55.0	94.3	44.3
June 2006	2.7	78.4	56.7	89.8	45.9
July 2006	2.3	84.2	64.6	93.5	55.4
August 2006	2.1	87.2	67.5	94.7	57.1
Sept 2006	1.6	80.0	61.6	90.1	50.8

### United States Department of Agriculture, Agricultural Marketing Service Science and Technology, Plant Variety Protection Office National Agricultural Library Building, Room 400 Beltsville, MD 20705-2351

OBJECTIVE DESCRIPTION OF VARIETY CORN (Zea mays L.)

Name of Applicant(s)	CORN (Zea m		1 1/2-1/2-1/2-1	N T B	
Tabley Good Goding		variety	Name or Temporary Des	signation	
Holden's Foundation Seed L.L.C.	**			LH341	
Address (Street & No., or R.F.D. No., City, State, Zip Code as	nd Country)		FOR OF	FICIAL USE PV	PO Number
8350 Minnegan Road, Waterman, IL 60556			2	0060003	/
Place the appropriate number that describes the varietal char necessary. Completeness should be striven for to establish a	racters typical of this inbred variety an adequate variety description.	in the spaces below. Righ	nt justify whole nu	mbers by adding leading	zeroes if
COLOR CHOICES (Use in conjunction with Munsell color code of 1—Light Green 06=Pale Yellow 02=Medium Green 07=Yellow 03=Dark Green 08=Yellow-Orang 04=Very Dark Green 09=Salmon 05=Green-Yellow 10=Pink-Orange	11=Pink 12=Light Red 13=Cherry Red 14=Red 15=Red & White	16=Pale P 17=Purple 18=Colorle 19=White 20=White	Purple ess Capped	21=Buff 22=Tan 23=Brown 24=Bronze 25=Variegated (Des 26=Other (Descri	
Yellow Dent Families:     Family	Yellow Dent (Unrelate Co109, ND246, Oh7, T232 W117, W153R W182BN White Dent: Cl66, H105, Ky2	d):	Sweet C Popcor S Pipecoi	Corn: 13, Iowa5125, P39, 213 n: G1533, 4722, HP301, H	P7211
TYPE: (describe intermediate types in Comments section)			Standard Inbred	Name CM105	
2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornar	mental 7=Pipecorn		2 Type		
REGION WHERE DEVELOPED IN THE U.S.A.:     1=Northwest 2=North central 3=Northeast 4=S	outheast 5=South central 6=So		Standard Seed S 2 Region	ource	
3. MATURITY (In Region Best Adaptability; show Heat Unit for DAYS HEAT UNITS 7 0 1 2 1 9. 0 From emergence to 50%	of plants in silk		DAYS 68	HEAT UNITS 1400.5	
6 9 1 1 9 1. 5 From emergence to 50%	•	·	64	1292.5	
From 10% to 90% pollen	shed				
From 50% silk to optimur	n edible quality				
From 50% silk to harvest	at 25% moisture				
4. PLANT:	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
1 8 6. 6 cm Plant Height (to tassel tip)	15.7	30	160.5	24.6	30
5 2. 6 cm Ear Height (to base of top ear node)	9.6	30	49.4	12.0	30
1 5. 1 cm Length of Top Ear Internode	1.7	30	11.7	2.0	30
Average Number of Tillers	A				
1.0 Average Number of Ears per Stalk	0.2	30	1.0	0.1	 15
2 Anthocyanin of Brace Roots: 1=Absent 2=Fa			2		
Application Variety Data	Page 1		Standard Inbred	Data	4
spenagari ranal ages	raye i	<u></u>	Candald IIIDICU	- Luid	

Application Verials Date			<u> </u>	20000	V - U (
Application Variety Data	Page 2		Standard Inbred	d Data	****
5. LEAF:	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
8 . 6 cm Width of Ear Node Leaf	0.9	30	7. 1	0.7	30
6 6. 9 cm Length of Ear Node Leaf	7.2	30	6 6. 7	9.6	30
5.4 Number of leaves above top ear	0.3	30	5. 7	0.6	15
2 0. 7 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis	7.1 to stalk above leaf)	30	4 7. 8	7.0	30
0 2 Leaf Color (Munsell code 5 GY 4/8)			0 2 (Munsel	l code 5 GY 4/8)	•
<ol> <li>Leaf Sheath Pubescence (Rate on scale from</li> </ol>	1=none to 9=like peach fuzz)		2		
6 Marginal Waves (Rate on scale from 1≃none t	o 9=many)		6		
6 Longitudinal Creases (Rate on scale from 1=n	one to 9=many)		5		
6. TASSEL:	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
4.1 Number of Primary Lateral Branches	1.1	30	5. 3	1.2	30
8. 4 Branch Angle from Central Spike	3.6	30	3 3.2	9.0	30
3 9. 6 cm Tassel Length (from top leaf collar to tassel tip)	2.7	30	3 4.4	2.6	30
3.8 Pollen Shed (Rate on scale from 0=male sterile	o 9=heavy shed)		6.2		
0 9 Anther Color (Munsell code 10 R 7/8)			0 7 (Muns	ell code 2.5 Y 8/10)	
1 6 Glume Color (Munsell code 5 RP 6/6)	•		1 2 (Muns	ell code 2.5 R 5/8)	
1 Bar Glumes (Glume Bands): 1=Absent 2=Prese	nt		1		
7a. EAR (Unhusked Data):					·/·
0 5 Silk Color (3 days after emergence) (Munsell code 2	2.5 GY 8/6)		0 7 (Munse	ell code 2.5 Y 8/10)	
0 2 Fresh Husk Color (25 days after 50% silking) (Muns	ell code 5 GY 4/8)		0 2 (Munse	ell code 5 GY 4/8)	
2 1 Dry Husk Color (65 days after 50% Silking) (Munsell	code 2.5 Y 8/4)		2 1 (Munse	ell code 2.5 Y 8/4)	
1 Position of Ear at Dry Husk Stage: 1=Upright 2=Hori:	zontal 3=Pendent		1		
8 Husk Tightness (Rate on scale from 1=very loose to	9=very tight)		9		
1 Husk Extension (at harvest): 1=Short (ears exposed) tip) 4=Very Long (>10 cm)	2=Medium (<8 cm) 3=Long (8	3-10 cm beyond ear	1		
7b. EAR (Husked Ear Data):	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
1 2. 4 cm Ear Length	0.9	30	1 4.0	1.6	30
3 7. 4 mm Ear Diameter at mid-point	3.3	30	3 8.0	1.4	15
1 0 1.6 gm Ear Weight	4.4	30	7 3.2	1.9	15
12.2 Number of Kernel Rows	1.3	30	1 3.9	0.9	15
2 Kernel Rows: 1=Indistinct 2=Distinct			2		
1 Row Alignment: 1=Straight 2=Slightly Curved 3=	Spiral		1		
9.8 cm Shank Length	1.5	30	6. 8	2.0	15
2 Ear Taper: 1=Slight 2=Average 3=Extreme			2		
Application Variety Data	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Standard Inbred	Data	<del>!</del>
Note: Use chart on first page to choose color codes for color traits.	*****		L		·

Application Va	rriety Data	Page 3	**	Standard Inbred	Data	
8. KERNEL (I	Oried):	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
9 .7	mm Kernel Length	2.1	30	0 9.2	1.0	15
8.5	mm Kernel Width	0.5	30	0 8.2	0.6	15
5.5	mm Kernel Thickness	1.4	30	0 5.1	1.2	15
43.6	% Round Kernels (Shape Grade)	4.2	500g	5 6.8	2.6	500g
. 1	Aleurone Color Pattern: 1=Homozygous 2=Segregati	ng (describe)	_	1		•
19	Aleurone Color (Munsell code Lighter than 2.5 Y 9/2)			1 9 (Muns	ell code Lighter Than 2.5	Y 9/2)
0.8	Hard Endosperm Color (Munsell code 2.5 Y 7/10)			07 (Munse	ell code 2.5 Y 8/8)	·
3	Endosperm Type: 1=Sweet (su1) 2=Extra Sweet (sh 5=Waxy Starch 6=High Protein 7=High Lysine 10=Other	2) 3=Normal Starch 4 8=Super Sweet (se)	=High Amylose Starch 9=High Oil	0 3		
2 4.8	gm Weight per 100 Kernels (unsized sample)	2.1	1800 seeds	2 2.5	2.6	2000 seeds
9. COB:		Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
2 2 .9	mm Cob Diameter at mid-point	1.4	30	2 6.2	1.3	15
1 4	Cob Color (Munsell code 5 R 4/10)			1 4 (Muns	ell code 5 R 4/10)	
A. Leaf Blights  Anthracnos Common S Common S Eyespot (/ Goss's Wi Gray Leaf S Helminthos Northern Ld Southern L	RESISTANCE (Rate from 1 (most susceptible) to 9 (most Options blank if polygenic):  i, Wilts, and Local Infection Diseases se Leaf Blight (Colletotrichum graminicola) Rust (Puccinia sorghi) Smut (Ustilago maydis) Kabatiella zeae) It (Clavibacter michiganense spp. nebraskense) Spot (Cercospora zeae-maydis) sporium Leaf Spot (Bipolaris zeicola)	resistant); leave blank if  Race _ Race _ Race _ Race _	not tested; leave	3 Northern Leaf	ist nut	Race 1
Stewart's Nother (Spe	Necrosis (MCMV and MDMV)			Southern Rus 4 Stewart's Wilt Other (Speci	fy)	
Maize Chlor Maize Chlor Maize Dwar	(Sphacelotheca reiliana) otic Dwarf Virus (MCDV) otic Mottle Virus (MCMV) f Mosaic Virus (MDMV) owny Mildew of Corn (Peronosclerospora sorghi) ify)	Strain		Head Smut Maize Chlord Maize Chlord Maize Dwarf Sorghum Do	otic Dwarf Virus tic Mottle Virus Mosaic Viruswny Mildew of Corn fy)	Strain
C. Stalk Rots						
Diplodia Stal Fusarium St	e Stalk Rot (Colletotrichum graminicola) lk Rot (Stenocarpella maydis) alk Rot (Fusarium moniliforme) talk Rot (Gibberella zeae) ify)		į	Anthracnose Diplodia Stall Fusarium Sta Gibberella St Other (Specif	< Rot ilk Rot alk Rot	
D. Ear and Kerr						
Diplodia Ear Fusarium Ea Gibberella E	Ear and Kernel Rot (Aspergillus flavus) Rot (Stenocarpella maydis) Ir and Kernel Rot (Fusarium moniliforme) ar Rot (Gibberella zeae) fy)		ş	Diplodia Ear	r & Kernel Rot ar Rot	
Application Varie	ety Data			Standard Inbred [	Data	· · · · · · · · · · · · · · · · · · ·
	on first page to change pales and a fee enter trails					

Application Variety Data Page 4	Standard Inbred Data
11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested): Standard Deviation Sample Size	Standard Deviation Sample Size
Banks Grass Mite (Oligonychus pratensis)	Banks Grass Mite
Corn Earworm (Helicoverpa zea) Leaf-Feeding Silk Feeding:mg larval wt Ear Damage	Corn Earworm Leaf Feeding Ear Damage
Corn Leaf Aphid (Rhopalosiphum maidis) Corn Sap Beetle (Carpophilus dimidiatus)	Corn Leaf Aphid Corn Sap Beetle
European Corn Borer (Ostrinia nubilalis) 1st Generation (Typically Whorl Leaf Feeding) 2nd Generation (Typically Leaf Sheath-Collar Feeding) Stalk Tunneling : cm tunneled/plant	European Corn Borer 1st Generation 2nd Generation
Fall Armyworm (Spodoptera frugiperda) Leaf-Feeding Silk-Feeding: mg larval wt.	Fall Armyworm Leaf Feeding
Maize Weevil (Sitophilus zeamaize) Northern Rootworm (Diabrotica barberi) Southern Rootworm (Diabrotica undecimpunctata)	Maize Weevil Northern Rootworm Southern Rootworm
Southwestern Corn Borer ( <i>Diatraea grandiosella</i> ) Leaf Feeding Stalk Tunneling: cm tunneled/plant	Southwestern Corn Borer Leaf Feeding
Two-spotted Spider Mite (Tetranychus urticae) Western Rootworm (Diabrotica virgifera virgifera) Other (Specify)	Two-spotted Spider Mite Western Rootworm Other (Specify)
12. AGRONOMIC TRAITS:	
5 Stay Green (at 65 days after anthesis) (Rate on a scale from 1≃worst to 9=excellent.)	1 Stay Green
0 0 . 0 % Dropped Ears (at 65 days after anthesis)	0 0 . 1 % Dropped ears
0 0 .0 % Pre-anthesis Brittle Snapping	0 0 . 0 % Pre-anthesis Brittle Snapping
0 0. 0 % Pre-anthesis Root Lodging	0 0 . 0 % Pre-anthesis Root Lodging
0 0. 0 % Post-anthesis Root Lodging (at 65 days after anthesis)	0 0 . 0 % Post-anthesis Root Lodging
Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)	Yield
13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied)	
0 Isozymes 0 RFLP's 0 RAPD'sOther (Specify)	
REFERENCES:	
Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University. Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180. Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The Inglett, G.E. (Ed.) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, C.T. Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York. McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp. Munsell Color Chart for Plant Tissues. Macbeth. P.O. Box 230. Newburgh, N.Y. 12551-0230 The Mutants of Maize. 1968. Crop Science Society of America. Madison, WI. Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp. Sprague, G.F., and J.W. Dudley (Editors). 1988. Com and Corn Improvement, Third Edition. Agronomy Monograph 18. A Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959. U.S. Department of Agriculture. 1936, 1937. Yearbook.	American Phytopathological Society, St. Paul, MN.
COMMENTS (e.g. state how heat units were calculated, standard inbred seed source, and/or where data was collected. (	Continue in Exhibit D):
Heat Unit Calculation: GDU = <u>Daily Max Temp (&lt;=86°F) + Daily Min Temp (&gt;=50°F)</u>	
Supplemental data provided for pollen shed, ear weight, % round kernels and weight per 100 kernels from inventory data. Supplemental data of quantitative traits for subject variety 'LH341' obtained from 2006 and	2006 production parent test data and 2006 seed 2007 seed inventory and production parent test.

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U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE  EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	Application is required in order to det certificate is to be issued (7 U.S.C. 2 confidential until the certificate is issued.	421). The information is held
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Holden's Foundation Seeds L.L.C.	OR EXPENDING NTAL NUMBER	
Florida Foundation Seeds L.E.C.	National Control of the Control of t	LH341
4. ADDRESS (Street-only No., cr.R.F.D. No., City: State, and ZIF, and Country)	5: TELEPHONE (militar area acide)	6: FAX (Include onto scote)
8350 Minnegan Road	(815) 758-9281	(815) 758-3117
Waterman, IL 60556	T. PVPO NUMBER	
U.S.A.	I and the substitutions.	20060003
8. Does the applicant own all rights to the variety? Mark an "X" in th	e appropriate block. If no, please expl	and the second s
	a appropriate steem to the product axp.	ain X YES
9. Is the applicant (individual or company) a U.S. National or a U.S. b	pased company? If no, give name of co	ountry X YES NO
10. Is the applicant the original owner? X YES NO	If no, please answer one of the foll	owing:
a. If the original rights to variety were owned by individual(s), is (	are) the original owner(s) a LLS. Nations	i/e)2
		(3)1
YES NO	If no, give name of country	
b. If the original rights to variety were owned by a company(ies),	is (are) the existed super(s) a LLC has	ad company 0
•		ed company?
YES NO	If no, give name of country	
11. Additional explanation on ownership (If needed, use the reverse t	for extra space):	
Corn Variety LH341 was originated and dev Foundation Seeds, L.L.C. By agreement be breeder, all rights to any invention, discover Foundation Seeds, L.L.C. No rights to such the breeder.	eloped by a breeder employed between Holden's Foundation See y or development are assigned to	ds, L.L.C. and the Holden's
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not licens	ees) who meet the following criteria:	
If the rights to the variety are owned by the original breeder, that penaltional of a country which affords similar protection to nationals of	erson must be a U.S. national, national of the U.S. for the same genus and specie	f a UPOV member country, or
<ol><li>If the rights to the variety are owned by the company which employ nationals of a UPOV member country, or owned by nationals of a c genus and species.</li></ol>	red the original breeder(s), the company country which affords similar protection to	must be U.S. based, owned by nationals of the U.S. for the same
3. If the applicant is an owner who is not the original owner, both the	original owner and the applicant must me	eet one of the above criteria.
The original breeder/owner may be the individual or company who dir Act for definitions.	ected the final breeding. See Section 4	I(a)(2) of the Plant Variety Protection
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, control number. The valid OMB control number for this information collection is 0581-0055, response, including the time for reviewing the instructions, searching existing data sources, g	The time required to complete this information collecti	on is estimated in average 6 minutes riec
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U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY **PLANT VARIETY PROTECTION OFFICE** BELTSVILLE, MD 20705

**EXHIBIT F** 

NAME OF OWNER (S) Holden's Foundation Seeds LLC	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	TEMPORARY OR EXPERIMENTAL DESIGNATION
· ·	8350 Minnegan Road, Waterman, IL 60556 USA	VARIETY NAME  LH341
NAME OF OWNER REPRESENTATIVE (S) Timothy R. Kain	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 8350 Minnegan Road, Waterman, IL 60556 USA	FOR OFFICIAL USE ONLY  PVPO NUMBER
		200600031

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.